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<b>(21) International Application Number:</b> PCT/US99/15669 <b>(22) International Filing Date:</b> 13 July 1999 (13.07.99) <b>(30) Priority Data:</b> 09/115,230 14 July 1998 (14.07.98) US 09/209,290 11 December 1998 (11.12.98) US <b>(71) Applicant (for all designated States except US):</b> ADAMS FOOD LTD. [US/US]; 939 Newton Lane, Gallatin, TN 37066 (US). <b>(72) Inventor; and</b> <b>(75) Inventor/Applicant (for US only):</b> KROTZER, R., Douglas [US/US]; 939 Newton Lane, Gallatin, TN 37066 (US). <b>(74) Agent:</b> AUERBACH, Jeffrey, I.; Howrey & Simon, 1299 Pennsylvania Avenue, N.W., Box 34, Washington, DC 20004-2402 (US).		<b>(81) Designated States:</b> AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).  <b>Published</b> <i>Without international search report and to be republished upon receipt of that report.</i>
<b>(54) Title:</b> NUTRITIONALLY ACTIVE COMPOSITION FOR HARDENING FINGERNAILS		
<b>(57) Abstract</b>  The invention relates to compositions having nutritionally beneficial substituents for hardening fingernails. These nutritionally beneficial substituents may be gelatin, horsehair, and silica and other substituents that stimulate short and/or long term psychological feedback. The invention also relates to vehicles or devices that accomplish the delivery of the nutritionally beneficial substituent to a recipient.		

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**TITLE OF THE INVENTION:****NUTRITIONALLY ACTIVE COMPOSITION FOR  
HARDENING FINGERNAILS****CROSS-REFERENCE TO RELATED APPLICATIONS**

5           This application is a continuation-in-part of U.S. Patent Application Serial No. 09/115,230, filed July 14, 1998.

**FIELD OF THE INVENTION**

10           The invention relates to compositions having nutritionally beneficial substituents for hardening fingernails and substituents that stimulate short and/or long term psychological feedback. The invention also relates to vehicles or devices that accomplish the delivery of the nutritionally beneficial substituents to a recipient. The invention particularly concerns compositions for oral or translingual delivery using beverages, lozenges and the like as vehicles to facilitate delivery. The invention additionally concerns the use of transdermal delivery devices (e.g., patches) to accomplish the delivery of such  
15           substituent(s). The invention particularly concerns a formulated, substantially alcohol-free beverage for oral consumption having a nutritionally beneficial substituent and a substituent that stimulates psychological feedback and which accomplishes the oral delivery of the nutritionally beneficial substituent.

**BACKGROUND OF THE INVENTION**

20           For many individuals, adhering to a daily routine of nutritional supplementation is difficult; it may require a change of habit, or practices, by the consumer. More significantly, nutritional agents may not cause an immediately discernible effect, and, lacking this or other positive feedback, the consumer may discontinue use prematurely. The present invention is directed to this problem.

25           There are many examples of beverages providing nutritional supplements. U.S. Patent 5,626,849 (Hastings *et al.*) concerns a composition for facilitating weight loss. The composition contains chromium, L-carnitine,  $\gamma$ -linolenic acid, (-) hydroxycitric acid, choline, inositol, antioxidants and herbs. U.S. Patent 5,567,424 (Hastings) describes a beverage composition containing herbs, fiber, antioxidants and enzymes. U.S. Patent 5,536,506  
30           (Majeed *et al.*) describes piperine-containing compositions. U.S. Patent 5,290,605 (Shapira) concerns a nutritional soft drink whose ingredients are said to provide protection from UV damage. The composition contains a carotenoid mix and optionally,

fruit/vegetable juices and/or herbal preparations. U.S. Patent 5,240,732 (Ueda) concerns plant extract-containing beverages supplemented with a sugar-alcohol.

Nutritional supplements having psychological feedback properties have also been described. U.S. Patents 5,681,569 (Kuznicki *et al.*) and 4,946,701 (Tsai *et al.*) both  
5 concern beverage compositions that contain green tea extracts. U.S. Patent 5,674,522 (Shah *et al.*) concerns a powdered concentrate containing one or more pharmacologically active agents for use in hot beverages. The composition may contain caffeine, as well as vitamins and minerals. U.S. Patent 5,571,441 (Andon *et al.*) is directed to nutritional supplements compositions that provide psychological feedback.

10 The disclosed compositions contain vitamins and/or minerals as well as xanthine alkaloids (such as caffeine, etc.) that provide a physiological signal. U.S. Patent 5,114,723 (Stray-Gundersen) concerns hypotonic beverages for supplying physiologically essential electrolytes, nutrient minerals, carbohydrates and other ingredients to a consumer. The patent discloses that caffeine may be added to the beverage formulation. U.S. Patent  
15 4,992,282 (Mehansho *et al.*) concerns vitamin and mineral-fortified beverages, which may be supplemented with caffeine. U.S. Patent 4,612,205 (Kupper *et al.*) concerns fruit-flavored carbonated beverages that may be supplemented with caffeine. U.S. Patent 4,061,797 (Hannan, Jr. *et al.*) concerns non-carbonated, caffeinated fruit beverages.

U.S. Patent 4,737,375 (Nakel *et al.*) describes calcium-supplemented beverages.  
20 U.S. Patent 4,769,244 (Lavie) describes non-hygroscopic water-soluble pulverulent compositions that may be employed to make beverages.

Compositions for accomplishing transdermal delivery of pharmaceuticals have also been described (see, for example, U.S. Patents 5,718,914 (Foldvari), 5,698,217 (Wilking),  
25 5,721,257 (Baker), 5,683,713 (Blank *et al.*), and 4,788,189 (Glazer)).

The present invention provides an improved composition for accomplishing the delivery of nutritionally beneficial substituents for hardening fingernails. In a preferred embodiment, the present invention additionally provides an improved formulated beverage that provides at least one, and most preferably multiple, short and long term psychological feedback(s) to the consumer.

## 30 SUMMARY OF THE INVENTION

Conventional or traditional beverages are formulated to provide external sensory appeal (such as taste, sight, or smell). In contrast to such compositions, the present invention provides beverages and other compositions for hardening fingernails that are formulated to provide internal appeal directly to the brain (i.e., brain rewards). The  
35 present invention thus relates to a formulated, defined composition having a nutritionally beneficial substituent for hardening fingernails and a long and/or short term substituent

that stimulates psychological feedback and to vehicles or devices that accomplish the delivery of the nutritionally beneficial substituent. Such preferred compositions will typically possess a nutritionally beneficial substituent and both a long term and a short term substituent that stimulates psychological feedback and which accomplishes the delivery of the nutritionally beneficial substituent. Preferred vehicles include oral and/or translingual delivery vehicles, such as beverages, elixirs, lozenges, chewable tablets, and the like, and transdermal delivery devices such as patches, bandages, etc. As used herein, the term "fingernail" is intended to encompass the nails of the fingers and toes.

In detail, the invention provides In detail, the invention concerns a composition (such as a beverage, etc.) for human consumption, comprising:

at least one nutritionally beneficial substituent (A) selected from the group consisting of:

gelatin; horsetail; silica; and bioavailable zinc;

the substituent present in an amount sufficient to enhance or facilitate hardening of fingernails; and

at least one additional substituent (B) that provides traditional psychological feedback selected from the group consisting of:

caffeine or a caffeine equivalent; tryptophan; ephedra; cola; green tea extract; carbonic acid; phosphoric acid; citric acid; hops; cocoa; chocolate; an anandamide; quinine; malic acid; a sweetener; a fruit juice or fruit juice extract; milk; a vegetable juice or vegetable juice extract; and 5-hydroxy-tryptophan;

present in an amount sufficient to provide a sensory psychological feedback.

The invention also concerns compositions that additionally contain at least one additional substituent (C) that provides long term psychological feedback substituent or at least one additional substituent (D) that provides short term psychological feedback; wherein

the substituent (C) that provides the long term psychological feedback is selected from the group consisting of:

an anandamide; 5-hydroxytryptophan; 5-fluoro-A-methyltryptamine; 5-fluorotryptophan; 6-fluorotryptophan; tryptophan; allocryptine; caffeine; theophylline; theobromine; California poppy; calcium; chromium picolinate; chromium polynicotinate; chicalote extract; cocoa; chocolate; Damiana (*Turnera diffusa*); DL-phenylalanine; ephedra; ephedrine;

- 5 epinephrine; GABA; ginger; ginseng; L-glutamine; green tea; guarana; kava kava; lactuca virosa; L-tyrosine; lobelia; magnesium; maraba; protopine; pseudophedrine; pseudoepinephrine; pyridoxal-5-phosphate; red rice yeast; serotonin; sucrose; fructose; glucose; high fructose corn syrup; and St. Johnswort; and
- is present in an amount sufficient to provide a long term feeling of well-being or calmness; and
- the substituent (D) that provides the short term psychological feedback is selected
- 10 from the group consisting of:
- an anandamide; an alcohol enhancer; angelica root; balm; bitter orange (*Auranti pericarpium*); bogbean; boldo; calamus; California poppy; capsaicum; caraway; cayenne; chamomile; cinchona bark; quinine; chocolate; cinnamon; clove; cocoa; condurango; dandelion; elecampane; GABA; gentian; ginger;
- 15 ginseng; holy thistle; hops; horehound; dried lemon peel (*Citri pericardium*); mugwort; unripe orange; peppermint; quassia; red sage; rosemary; star anise; thyme; tumeric; wormwood; yarrow; and zinc; and
- 20 is present in an amount sufficient to provide a short term sensation of warmth, tingling, excitement, tranquility and well-being, or a distinctive, intense, bitter or unusual taste.
- The invention additionally provides a composition for human consumption, comprising:
- 25 at least one nutritionally beneficial substituent (A) selected from the group consisting of:
- gelatin; horsetail; silica; and bioavailable zinc;
- the substituent being present in an amount sufficient to enhance or facilitate hardening of fingernails; and
- 30 at least one additional substituent, wherein the additional substituent is selected from the group consisting of a substituent (C) that provides long term psychological feedback substituent and a substituent (D) that provides short term psychological feedback;
- wherein the substituent (C) that provides the long term psychological feedback is selected from the group consisting of:
- 35

an anandamide; 5-hydroxytryptophan; 5-fluoro-A-methyltryptamine; 5-fluorotryptophan; 6-fluorotryptophan; tryptophan; allocryptine; caffeine; theophylline; theobromine; California poppy; calcium; chromium picolinate; chromium polynicotinate; chicalote extract; cocoa; chocolate; Damiana (*Turnera diffusa*); DL-phenylalanine; ephedra; ephedrine; epinephrine; GABA; ginger; ginseng; L-glutamine; green tea; guarana; kava kava; lactuca virosa; L-tyrosine; lobelia; magnesium; maraba; protopine; pseudophedrine; pseudoepinephrine; pyridoxal-5-phosphate; red rice yeast; serotonin; sucrose; fructose; glucose; high fructose corn syrup; and St. Johnswort; and

is present in an amount sufficient to provide a long term feeling of well-being or calmness; and

the substituent (D) that provides the short term psychological feedback is selected from the group consisting of:

an anandamide; an alcohol enhancer; angelica root; balm; bitter orange (*Auranti pericarpium*); bogbean; boldo; calamus; California poppy; capsicum; caraway; cayenne; chamomile; cinchona bark; quinine; chocolate; cinnamon; clove; cocoa; condurango; dandelion; elecampane; GABA; gentian; ginger; ginseng; holy thistle; hops; horehound; dried lemon peel (*Citri pericardium*); mugwort; unripe orange; peppermint; quassia; red sage; rosemary; star anise; thyme; tumeric; wormwood; yarrow; and zinc; and

is present in an amount sufficient to provide a short term sensation of warmth, tingling, excitement, tranquility and well-being, or a distinctive, intense, bitter or unusual taste.

The invention also provides a method for hardening fingernails of a human, which comprises administering or providing to the human a composition comprising:

at least one nutritionally beneficial substituent (A) selected from the group consisting of:

gelatin; horsetail; silica; and bioavailable zinc;

the substituent being present in an amount sufficient to enhance or facilitate hardening of fingernails of the human recipient; and

at least one additional substituent, wherein the additional substituent is selected from the group consisting of a substituent (C) that provides long term psychological feedback substituent and a substituent (D) that provides short term psychological feedback;

wherein the substituent (C) that provides the long term psychological feedback is selected from the group consisting of:

an anandamide; 5-hydroxytryptophan; 5-fluoro-A-methyltryptamine; 5-fluorotryptophan; 6-fluorotryptophan; tryptophan; allocryptine; caffeine; theophylline; theobromine; California poppy; calcium; chromium picolinate; chromium polynicotinate; chicalote extract; cocoa; chocolate; Damiana (*Turnera diffusa*); DL-phenylalanine; ephedra; ephedrine; epinephrine; GABA; ginger; ginseng; L-glutamine; green tea; guarana; kava kava; lactuca virosa; L-tyrosine; lobelia; magnesium; maraba; protopine; pseudophedrine; pseudoepinephrine; pyridoxal-5-phosphate; red rice yeast; serotonin; sucrose; fructose; glucose; high fructose corn syrup; and St. Johnswort; and

is present in an amount sufficient to provide a long term feeling of well-being or calmness; and

the substituent (D) that provides the short term psychological feedback is selected from the group consisting of:

an anandamide; an alcohol enhancer; angelica root; balm; bitter orange (*Auranti pericarpium*); bogbean; boldo; calamus; California poppy; capsicum; caraway; cayenne; chamomile; cinchona bark; quinine; chocolate; cinnamon; clove; cocoa; condurango; dandelion; elecampane; GABA; gentian; ginger; ginseng; holy thistle; hops; horehound; dried lemon peel (*Citri pericardium*); mugwort; unripe orange; peppermint; quassia; red sage; rosemary; star anise; thyme; tumeric; wormwood; yarrow; and zinc; and



is present in an amount sufficient to provide a short term sensation of warmth, tingling, excitement, tranquility and well-being, or a distinctive, intense, bitter or unusual taste.

5 The invention additionally provides a composition for human consumption, comprising:

at least two, at least three, or all, nutritionally beneficial substituents (A), wherein the substituents (A) are selected from the group consisting of:

gelatin; horsetail; silica; and bioavailable zinc;

10 wherein the substituents are present in an amount sufficient to enhance or facilitate hardening of fingernails.

The invention additionally provides a composition for human consumption, comprising:

15 at least two, at least three, at least four, or at least five, substituents (B) that provide traditional psychological feedback, wherein the substituents (B) are selected from the group consisting of:

caffeine or a caffeine equivalent; tryptophan; ephedra; cola;  
green tea extract; carbonic acid; phosphoric acid; citric acid;  
hops; cocoa; chocolate; an anandamide; quinine; malic acid; a  
sweetener; a fruit juice or fruit juice extract; milk; a vegetable  
20 juice or vegetable juice extract; and 5-hydroxy-tryptophan;

wherein the substituents are present in an amount sufficient to provide a sensory psychological feedback.

The invention additionally provides a composition for human consumption, comprising:

25 at least two, at least three, at least four, or at least five, substituents (C) that provide long term psychological feedback, wherein the substituents (C) are selected from the group consisting of:

30 an anandamide; 5-hydroxytryptophan; 5-fluoro-A-methyltryptamine; 5-fluorotryptophan; 6-fluorotryptophan; tryptophan; allocryptine; caffeine; theophylline; theobromine; California poppy; calcium; chromium picolinate; chromium polynicotinate; chicalote extract; cocoa; chocolate; Damiana (*Turnera diffusa*); DL-phenylalanine; ephedra; ephedrine; epinephrine; GABA; ginger; ginseng; L-glutamine; green tea;  
35 guarana; kava kava; lactuca virosa; L-tyrosine; lobelia; magnesium; maraba; protopine; pseudophedrine;

pseudoephedrine; pyridoxal-5-phosphate; red rice yeast;  
serotonin; sucrose; fructose; glucose; high fructose corn syrup;  
and St. Johnswort;

wherein the substituents are present in an amount sufficient to provide  
a long term feeling of well-being or calmness.

The invention additionally provides a composition for human consumption,  
comprising:

at least two, at least three, at least four, or at least five, substituents (D) that  
provide short term psychological feedback, wherein the substituents (D) are  
selected from the group consisting of:

an anandamide; an alcohol enhancer; angelica root; balm;  
bitter orange (*Auranti pericarpium*); bogbean; boldo; calamus;  
California poppy; capsicum; caraway; cayenne; chamomile;  
cinchona bark; quinine; chocolate; cinnamon; clove; cocoa;  
condurango; dandelion; elecampane; GABA; gentian; ginger;  
ginseng; holy thistle; hops; horehound; dried lemon peel (*Citri*  
*pericardium*); mugwort; unripe orange; peppermint; quassia;  
red sage; rosemary; star anise; thyme; tumeric; wormwood;  
yarrow; and zinc; and

wherein the substituent is present in an amount sufficient to provide a short term  
sensation of warmth, tingling, excitement, tranquility and well-being, or a  
distinctive, intense, bitter or unusual taste.

#### DETAILED DESCRIPTION OF THE INVENTION

The invention relates to formulated, defined compositions having a nutritionally  
beneficial substituent for hardening fingernails and a long and/or short term substituent  
that stimulates psychological feedback, optionally in combination with a substituent that  
provides a traditional psychological feedback. The invention further relates to vehicles or  
devices that accomplish the delivery of the composition to a recipient. In a more preferred  
embodiment, the invention concerns such formulated, defined compositions that contain  
both a short term and a long term substituent that stimulates psychological feedback.

#### The Delivery Vehicles Or Devices Of The Invention

The compositions of the present invention are formulated or included in vehicles  
or devices that accomplish their delivery to recipients, and in particular, to recipient  
humans. Vehicles suitable for oral or translingual delivery are particularly preferred. A  
translingual delivery vehicle is one that accomplishes the delivery of the composition via

adsorption into the tongue, gums or soft tissues of the oral cavity. A vehicle suitable for oral delivery is one that accomplishes the delivery of the composition after ingestion. Oral and translingual/transdermal vehicles include beverages, lozenges, elixirs, syrups, powders, candies, chewable tablets, etc.

5 In an alternate embodiment, the delivery of the compositions of the present invention is accomplished using a transdermal delivery device. Such devices include bandages, patches, implants, etc. that accomplish the delivery of substituents via adsorption through the skin.

10 The compositions of the present invention are said to be "formulated, defined compositions" by which it is meant that at least two, and preferably all, of their chemical substituents are substantially defined chemically. Thus, although the compositions of the present invention may contain undefined substituents, such as those found in naturally obtainable plant extracts, etc., in all instances they contain at least two chemically ascertainable substituents that were deliberately added to the composition in  
15 predetermined amounts to achieve preselected concentrations. Where appropriate, the amounts of such substituents in the compositions of the invention will preferably be determined with consideration of the beneficial concentration (potency) of the substituent.

Beverages for oral administration are the preferred delivery vehicle. As used herein, the term "beverage" is intended to refer to a liquid composition that is in "single"  
20 strength form and is ready to drink. Examples of beverage compositions are well known (see, U.S. Patents 4,737,375 (Nakel *et al.*), 4, 992,282 (Mehansho *et al.*), 5,683,678 (Heckert *et al.*), 5,571,441 (Andon *et al.*), each herein incorporated by reference).

The invention contemplates the formulation and use of such beverages, as well as the formulation and use of beverage "concentrates." Such concentrates include solid  
25 materials (capsules, tablets, powders, etc.) or solutions, suspensions, or other liquids that require dilution before attaining their desired final state. Such liquid compositions may be formulated from the dissolution or suspension of solid substituents, or from the mixing of liquid substituents, or both. The liquid compositions of the present invention are intended to be orally provided, as distinguished from intravenous or other means.

30 The beverages of the present invention may be imbibed cooled (as by a refrigerant), or at ambient or elevated temperature (i.e., from about 25 °C to about 180 °C) or at more elevated temperatures (i.e., as a "hot" drink). In a preferred embodiment, the beverages of the present invention are imbibed at temperatures below 180 °C. In a more preferred embodiment, the beverages of the present invention are imbibed at  
35 temperatures below 25 °C.

The beverages of the present invention are preferably alcohol-free. They thus contain less than about 10% ethanol, more preferably less than about 5% ethanol, and most preferably are alcohol-free (i.e. only a trace amount of ethanol or none at all). The term "alcohol-free," as used herein, is intended to be limited to consideration of the ethanol (ethyl alcohol) concentration of the beverage, and not to refer generally to concentrations of other non-ethanol alcohols that may be present. Alternatively, the beverages of the present invention may be alcohol-containing beverages (i.e., a beverage having between about 10% and about 20% alcohol).

The beverages of the present invention may be either carbonated or non-carbonated. The term "carbonated" means that the beverage contains both dissolved and dispersed carbon dioxide. Methods of forming carbonated beverages are well known in the art (see, for example, U.S. Patent 4,946,701 (Tsai *et al.*). Usually, when carbonated, the beverages of the present invention will contain from 1.0 to about 4.5 volumes of carbon dioxide. The preferred carbon dioxide beverages contain from about 2 to about 3.5 volumes of carbon dioxide.

The compositions of the present invention contain at least one substituent selected from a first class of substituents that comprise nutritionally beneficial compounds for hardening fingernails. Any of a wide array of such substituents may be included in the compositions of the invention. The compositions of the present invention contain at least one, and more preferably 2 or more substituents of this first class. Preferred substituents of this first class, their associated function, and their preferred concentrations in the compositions of the present invention are described in Table A. To be nutritionally beneficial, as used herein, a substituent is to be provided at a recited concentration, which is the preferred daily intake amount of the substituent. The daily intake amount may be obtained by a single serving, etc., or by multiple servings, etc. In a preferred embodiment, the daily intake amount will be delivered in three servings, each comprising one third of the total preferred intake amount. For a beverage, examples of typical serving sizes are any size between 1 and 16 fluid ounces (e.g., 16 ounces, 12 ounces, 8 ounces, 6 ounces, or 1 ounce) or metric equivalents. In Table A, the amount/day shown is the most preferred amount per day, unless a maximum, more preferred and/or most preferred amount/day is indicated. Where no amount/day is provided, the substituent may be provided in any customary or traditional amount/day.

<b>Table A</b> <b>Preferred Nutritionally Beneficial Substituents</b>					
Substituent	Units	Maximum	Amount/Day More Preferred	Most Preferred	Associated Function(s)
Gelatin	mg	100-6,000	400-6,000	800-999	Hardens Fingernails
Horsetail	Regular commercial quantities				Fingernail Hardening
Silica	Regular commercial quantities				Fingernail Hardening
Bioavailable Zinc and Zinc Equivalents (e.g., zinc picolinate, zinc polynicotinate, etc.)	mg	1-120	5-64	22	Blood Sugar Stabilizer Improve DNA Synthesis Improve Immune System Response Increase Insulin Activity Increase Alcohol Metabolism Discourages Alcohol Use

In a preferred embodiment of the invention, the nutritionally beneficial substituent of the compositions of the invention will be selected from the group consisting of gelatin, horsetail, silica, and bioavailable zinc (or a zinc equivalent). This embodiment provides nutritional benefits including strengthening and hardening of fingernails.

More Preferred Nutritionally Beneficial Substituents: In a more preferred embodiment, the compositions of the invention may contain one or more such preferred nutritionally beneficial substituents, such more preferred substituents being selected from the group consisting of gelatin, horsetail, and silica.

Highly Preferred Nutritionally Beneficial Substituents: In a still more preferred embodiment, the compositions of the invention may contain one or more such preferred nutritionally beneficial substituents, such highly preferred substituents being selected from the group consisting of gelatin, and horsetail.

In a further optional embodiment, the composition of the invention may contain one or more additional nutritionally beneficial substituents.

The compositions of the invention may additionally contain at least one substituent selected from a second class of substituents that provide a traditional psychological feedback. Any of a wide array of such substituents may be included in the composition. Such substituents will impart a sensory psychological effect to the recipient, such as a pleasant taste, aroma, visual appeal, etc. The compositions of the invention may contain more than one such traditional psychological feedback substituent. Table B lists

preferred traditional psychological feedback substituents that may be employed in the compositions of the present invention to impart such psychological effect.

<b>Table B</b> <b>Preferred Traditional Psychological Feedback Substituents</b>	
<b>Substituent</b>	<b>Concentration (amount/day)</b>
Caffeine and caffeine equivalents (e.g., theophylline, theobromine, related methylxanthines)	To Limit Of Non-Prescription Medication
Green Tea Extract	
Carbonic Acid	
Phosphoric Acid	
Citric Acid	
Hops	
Cola	
Cocoa	
Chocolate	
Anandamide	
Quinine	
Malic Acid	
Sweetener (such as caloric sweeteners (e.g., fructose, high fructose corn syrup, sucrose, maltose, glucose, lactose, sorbitol, galactose, etc.) or substantially non-caloric sweeteners (e.g., aspartame (and its derivatives), saccharin, L-sugars, cyclamates, etc.))	
Fruit juice or juice extract such as non-citrus fruit juices or juice extracts (e.g., those obtainable from apple, pineapple, grape, pear, banana, plum, cherry, peach, etc.); berry fruit juices or juice extracts (such as those obtainable from strawberry, blueberry, cranberry, blackberry, etc.); or citrus fruit juices or juice extracts (such as those obtainable from orange, grapefruit, lemon, lime, etc.)	
Milk (including mammalian milk products such as skim milk and cream, and vegetable milks, such as soy milk)	
Vegetable juices or juice extracts (such as those obtainable from carrot, tomato, beets, celery, etc.)	
5-hydroxy-tryptophan	
Spices and plant extract flavorings (such as cola, ginger, nutmeg, pepper, vanilla, chocolate, rum, mint, sugar maple, herbs, etc.).	

5 Synthetically compounded flavorants or naturally isolated flavorants may be employed.

As indicated, the orally or translingually delivered compositions of the present invention may be formulated to contain green tea extract. Green tea helps to control the

negative effects of caffeine. See, for example, French patent No. 2,586,532 issued to Balansard *et al.*

More Preferred Traditional Psychological Feedback Substituents: In a more preferred optional embodiment, the compositions of the present invention will contain one or more preferred traditional psychological feedback substituents, such more preferred substituents being selected from the group consisting of: Caffeine and caffeine equivalents (e.g., theophylline, theobromine, related methylxanthines); cola; carbonic acid; phosphoric acid; citric acid; hops; cocoa; chocolate; anandamide; quinine; malic acid; non-citric fruit juice or juice extract (such as wherein the fruit is grape, apple, cranberry, cherry, peach, etc.); milk; vegetable juice or juice extract (such as wherein the vegetable is carrot, celery, etc.); and 5-hydroxy-tryptophan.

Highly Preferred Traditional Psychological Feedback Substituents: In a still more preferred embodiment, the compositions of the present invention will contain one or more highly preferred traditional psychological feedback substituents, such highly preferred substituents being selected from the group consisting of: Caffeine and caffeine equivalents (e.g., theophylline, theobromine, related methylxanthines) at a concentration/day of greater than about 65 mg; carbonic acid; phosphoric acid; hops; non-citric fruit juice or fruit juice extract (such as wherein the fruit is grape, apple, cranberry, cherry, peach, etc.); milk; vegetable juice or juice extract (such as wherein the vegetable is carrot, celery, etc.); and 5-hydroxy-tryptophan.

The compositions of the invention may additionally contain at least one substituent selected from a third class of substituents that provide long term psychological feedback. Any of a wide array of such substituents may be included in the composition. Such substituents will impart a long term psychological effect to the recipient, such as a feeling of warmth or tingling, of excitement, of tranquillity and well-being, etc. In a preferred embodiment, the compositions of the invention will contain more than one such long term psychologically active substituent. Table C lists particularly preferred long term duration psychological feedback substituents that may be employed in the compositions of the present invention to impart a long term psychological effect.

30

<b>Table C</b> <b>Preferred Long Term Psychological Feedback Substituents</b>					
Substituent	Units	Concentration (amount/day)			Associated Function(s)
		Maximum	More Preferred	Most Preferred	
Anandamide	mg	31-296,000	1,013-144,600	7,083	Psychological Feedback Warm feeling Euphoria
5-hydroxytryptophan or equivalent compounds (e.g., 5-fluoro-A-methyltryptamine, 5-fluorotryptophan, 6-fluorotryptophan, tryptophan, etc.)	mg	5-18,000	60-3,468	357	Decrease Alcohol Desire Mood Stabilization Increases Brain Serotonin Reduces Withdrawal Stresses Restores Deficit Associated With Alcohol
Allocryptine	mg	0.1-50,400	5-1,800	170	Reduce Reward Effect of Alcohol Calming Relieves Withdrawal Symptoms from both Depressants and Stimulants
Caffeine (including theophylline, theobromine and related methylxanthines) (amounts are total effective available amounts of caffeine in composition)	mg	2-1000	36-723	322	Discourage Alcohol Use Increase Alcohol Metabolism Inhibit Adenosine Uptake Stimulant
California Poppy	mg	0.1-50,400	5-1,800	170	Reduce Reward Effect of Alcohol Calming Relieves Withdrawal Symptoms from both Depressants and Stimulants
Calcium	mg	10-4,000	567-2,980	1,222	Alleviate Depression
Chromium Cr-Picolinate Cr-Polynicotinate (Cr amounts increased with amount of Zn present, decreased for amounts of amino acids)	µg	2-800	5-400	194	Increases Tryptophan Blood/Brain Barrier Transport



**Table C**  
**Preferred Long Term Psychological Feedback Substituents**

Substituent	Units	Concentration (amount/day)			Associated Function(s)
		Maximum	More Preferred	Most Preferred	
Chicalote Extract (without toxic substituents)	µg	2-800	5-400	194	Reduce Reward Effect of Alcohol Calming Relieves Withdrawal Symptoms from both Depressants and Stimulants
Cocoa	mg	31-300,000	1,013-145,000	7,083	Activates Cannabinoid Receptors Warm Feeling Euphoria
Chocolate	mg	31-300,000	1,013-145,000	7,083	Activates Cannabinoid Receptors Warm Feeling Euphoria
Damiana ( <i>Turnera diffusa</i> )	Tbsp.	0.5-15	1-8	6	Mild Aphrodisiac Mild Euphoria (1-1.5 hours) Decrease Alcohol Desire
DL-phenylalanine	g	0.01-12 g	0.4-9 g	2.3 g	Psychological feedback Mood Stabilization Decrease Sugar Desire Decrease Alcohol Desire Decrease Chronic Pain
Ephedra (especially nevadensis)	mg	6-8,000	61-2,990	376	Stimulant Decrease Alcohol Desire
Ephedrine	mg	0.9-390	6-149	23.6	Stimulant Decrease Alcohol Desire
Epinephrine				Legal Amounts	Stimulant
GABA	g	0.75-39	3.6-14.3	7.43	Promote Calmness Tingling Sensation on Skin
Ginger	g	0.026-10	0.55-5	2.17	Antioxidant Blood Sugar Stabilizer Controls Nausea Stipulate Appetite Aromatic Smell Flush, Rosy Complexion

**Table C**  
**Preferred Long Term Psychological Feedback Substituents**

Substituent	Units	Concentration (amount/day)			Associated Function(s)
		Maximum	More Preferred	Most Preferred	
Ginseng	g	0.05-20	0.9-4.9	1.6	Stimulant Enhances Mental Concentration Energizes
L-glutamine	mg	111-8,891	556-4,808	2,746	Blood Sugar Stabilizer Promote Calmness Reduces Stress of Alcohol Withdrawal Suppress Alcohol Desire Suppress Appetite
Green Tea	g	0.05-25	0.9-19	8.80	Promote Calmness and Relaxation Decreases Alcohol in Blood Delays Caffeine Stimulation Blood Sugar Stabilizer
Guarana	g	0.2-3.4	1.2-2.7	2.06	Increases Alcohol Metabolism Reduces Blood Sugar Suppresses Alcohol Desire
Kava Kava					Relaxes Muscles Calming
Lactuca Virosa	µg	0.01-10,000	1.4-4,569	234	Calming Contains Trace Amounts of Morphine
L-tyrosine	g	0.001-8	0.05-3.9	2.6	Psychological feedback Neurotransmitter (L-dopa) precursor
Lobelia	mg	58-6,978	356-1,367	745	Psychological feedback Decreases Desire for Alcohol
Maraba					

<b>Table C</b> <b>Preferred Long Term Psychological Feedback Substituents</b>					
Substituent	Units	Concentration (amount/day)			Associated Function(s)
		Maximum	More Preferred	Most Preferred	
Magnesium	mg	1-1,990	108-879	546	Decrease Alcohol Consumption Restore Deficit Associated with Alcohol Consumption Eases Withdrawal Symptoms of Hyperexcitability and Hallucination Mood Stabilization
Protopine	mg	0.1-50,400	5-1,800	170	Reduce Reward of Alcohol Calming Relieves Withdrawal Symptoms for both Depressants and Stimulants
Pseudophedrine	mg	0.01-79	0.09-24	9.8 or maximum legal amount	Stimulant Decrease Alcohol Desire
Pseudoephedrine	mg			maximum legal amount	Stimulant Decrease Alcohol Desire
Pyridoxal-5-phosphate	mg	1-989	31-199	124	Decreases Alcohol Desire Alleviate Depression Enable Neurotransmitters Mood Stabilization
Red Rice Yeast					Mood Stabilizing Calming
Serotonin/ Enkephaline		(However generated in the Brain)			Psychological feedback
Sucrose, Fructose, Glucose, High Fructose Corn Syrup		1.5-30%	7.5-17.4%	10.11%	Discourage use of alcohol Decreases Duration of Alcohol Action Inhibits Tryptophan Destruction

<b>Table C</b> <b>Preferred Long Term Psychological Feedback Substituents</b>					
Substituent	Units	Concentration (amount/day)			Associated Function(s)
		Maximum	More Preferred	Most Preferred	
St. Johnswort	g	0.4-11	1.2-6.9	3.2	Suppress Appetite Feels Good Monomine Oxidase Inhibitor Eases Withdrawal Suppress alcohol Desire
Vitamin B6	mg	0.01-200	0.8-49.8	1.45	Mood Stabilization Immune System Support

More Preferred Long Term Psychological Feedback Substituents: In a preferred embodiment, the compositions of the present invention will contain one or more such long term psychological feedback substituents, such more preferred substituents being selected from the group consisting of: 5-hydroxytryptophan or equivalent compounds (e.g., 5-fluoro-A-methyltryptamine, 5-fluorotryptophan, 6-fluorotryptophan, tryptophan, etc.); Allocryptine; California Poppy; Chromium (Cr-Picolinate; Cr-Polynicotinate; (Cr amounts increased with amount of Zn present, decreased for amounts of amino acids)); Cocoa; Damiana (*Turnera diffusa*); D-phenylalanine; Ephedra (especially nevadenis); Ephedrine; Epinephrine; GABA; L-glutamine; Green Tea; Kava Kava; Lactuca Virosa; Lobelia; Magnesium; Maraba; Protopine; Pseudophedrine; Pseudoepinephrine; Pyridoxal-5-phosphate; Red Rice yeast; Serotonin; St. Johnswort; Vitamin B6.

Highly Preferred Long Term Psychological Feedback Substituents: In a still more preferred embodiment, the compositions of the present invention will contain one or more such long term psychological feedback substituents, such highly preferred substituents being selected from the group consisting of: 5-hydroxytryptophan or equivalent compounds (e.g., 5-fluoro-A-methyltryptamine, 5-fluorotryptophan, 6-fluorotryptophan, tryptophan, etc.); Allocryptine; California Poppy; Chicalote Extract (without toxic substituents); Cocoa; Damiana (*Turnera diffusa*); Ephedra nevadenis; Ephedrine; Green Tea; Lactuca Virosa; Lobelia; Maraba; Protopine; Pseudophedrine; Pseudoepinephrine and Red Rice Yeast.

The compositions of the invention may additionally contain at least one substituent selected from a fourth class of substituents that provide short term psychological feedback. Any of a wide array of such substituents may be included in the

composition. Such substituents will impart a short term psychological effect to the recipient, such as a feeling of warmth or tingling, of excitement, of tranquillity and well-being, etc. In a preferred embodiment, the compositions of the invention will contain more than one such short term psychologically active substituent.

5 In a particularly preferred embodiment, the compositions of the invention will contain psychologically active substituents that mediate their respective effects in both a short duration (i.e., effect completed within 15 minutes of nutritionally beneficial.) and a long term duration (i.e., effect completed after 15 minutes of nutritionally beneficial). Table D lists preferred short term duration psychological feedback substituents that may  
10 be employed in the compositions of the present invention to impart a short term psychological effect.

<b>Table D</b> <b>Preferred Short Term Psychological Feedback Substituents</b>					
Substituent	Units	Concentration (amount/day)			Associated Function(s)
		Maximum	More Preferred	Most Preferred	
Anandamide	mg	31-296,000	1,013-145,000	7,083	Warm feeling Euphoria
Alcohol Enhancers, Standard Flavorants		Between just noticeable and disagreeable			Imitate Burning and Biting Sensations of Alcohol
Angelica root					Bitter Aromatic Initially Intensely Spicy Turns Lastingly Pungent Stimulates Appetite
Balm					Calming Pleasantly Spicy Taste
Bitter orange ( <i>Auranti pericarpium</i> )					Stimulate Appetite Pleasantly Spicy Taste
Bogbean					Stimulate Appetite Stimulate Gastric Acid
Boldo					Weak Hypnotic Pungently Spicy, Bitter Taste
Calamus					Somewhat Spicy Calming

<b>Table D</b> <b>Preferred Short Term Psychological Feedback Substituents</b>					
Substituent	Units	Concentration (amount/day)			Associated Function(s)
		Maximum	More Preferred	Most Preferred	
California Poppy	mg	0.1-50,400	5-1,800	170	Euphoriant Reduce Reward Effect of Alcohol
Capsaicum		0.001-1.0%	0.01-0.6%	0.025%	Warming Sensation in Throat and Mouth
Caraway					Stimulate Appetite Relieves Flatulence Caused by Carbonation Spicy Taste
Cayenne		0.001-1%	0.01-0.6%	0.025%	Warming Sensation in Throat and Mouth
Chamomile					Stimulate Appetite Aromatic Taste
Cinchona bark (quinine)					Astringent Taste Stimulate Appetite
Chocolate	mg	31-296,000	1,013-157,000	7,087	Psychological feedback Warm feeling Euphoria
Cinnamon					Stimulate Appetite Pungently Sweet Sweep, Sharp Taste Relieves Flatulence Associated with Carbonation
Clove					Stimulate Appetite Pungently Sweet Relieves Flatulence Associated with Carbonation
Cocoa					Psychological Feedback Warm Feeling Euphoria
Condurango					Stimulate Appetite Bitter Taste
Dandelion					Slight Bitter Taste Stimulate Appetite

<b>Table D</b> <b>Preferred Short Term Psychological Feedback Substituents</b>					
Substituent	Units	Concentration (amount/day)			Associated Function(s)
		Maximum	More Preferred	Most Preferred	
Elecampane					Stimulate Appetite Relieves Flatulence Associated with Carbonation
GABA	g	0.75-39	3.6-14.3	7.43	Tingling Sensation on Skin After Taking Orally
Gentian					Sweet Taste Changing to Intensely Bitter Stimulate Appetite
Ginger	g	0.26-10	0.7-5	2.17	Flush, rosy complexion Stimulate Appetite Aromatic Smell
Ginseng	g	0.5-20	1.1-2.9	1.6	Clean Taste Energetic feeling
Holy thistle					Stimulate Appetite Bitter Taste
Hops	mg	1-6,000	178-2,990	934	Calming Stimulate Appetite Aids Withdrawal
Horehound					Bitter Taste Calming
Lemon Peel, dried ( <i>Citri pericardium</i> )					Stimulate Appetite Spicy, Acidic Taste
Mugwort					Stimulate Appetite Relieves Flatulence Associated with Carbonation Spicy Taste
Orange (unripe)					Stimulate Appetite Bitter Aromatic
Peppermint					Stimulate Appetite Relieves Flatulence Associated with Carbonation Calming

Table D Preferred Short Term Psychological Feedback Substituents					
Substituent	Units	Concentration (amount/day)			Associated Function(s)
		Maximum	More Preferred	Most Preferred	
Quassia					Stimulate Appetite Intensely Bitter
Red sage					Stimulate Appetite Relieves Flatulence Associated with Carbonation Spicy and Bitter Taste
Rosemary					Stimulate Appetite Relieves Flatulence Associated with Carbonation Pungent Taste
Star Anise					Stimulate Appetite Pungent and Spicy
Thyme					Stimulate Appetite Relieves Flatulence Associated with Carbonation Pungent Taste
Tumeric					Stimulate Appetite Relieves Flatulence Associated with Carbonation Pungent Bitter Taste
Vitamin K	µg	12-1,950	80-990	426	Feeling of Warmth from Accumulated Mega-amounts
Wormwood					Stimulate Appetite Bitter Aromatic, Intense Taste Strongly Relieves Flatulence associated with Carbonation
Yarrow					Stimulate Appetite Relieves Flatulence Associated with Carbonation



<b>Table D</b> <b>Preferred Short Term Psychological Feedback Substituents</b>					
Substituent	Units	Concentration (amount/day)			Associated Function(s)
		Maximum	More Preferred	Most Preferred	
Bioavailable Zinc and zinc picolinate or polynicotinate equivalents		1-120 mg	5-64 mg	22 mg	Energetic feeling

More Preferred Short Term Psychological Feedback Substituents: In a more preferred embodiment, the compositions of the present invention will contain one or more preferred short term psychological feedback substituents, such more preferred substituents being selected from the group consisting of: Anandamide; Alcohol Enhancers, Standard Flavorants; Angelica root; Boldo; California Poppy; Capsaicum; Cayenne; GABA; Gentian; Tumeric; Vitamin K; and Wormwood.

Highly Preferred Short Term Psychological Feedback Substituents: In a still more preferred embodiment, the compositions of the present invention will contain one or more highly preferred short term psychological feedback substituents, such highly preferred substituents being selected from the group consisting of: an anandamide; an alcohol enhancer; Angelica root; Boldo; California Poppy; Capsaicum; GABA; Gentian; Tumeric; Vitamin K; and Wormwood.

As indicated above, the invention specifically contemplates compositions containing one or more substituents of substituent classes: (A) that provide nutritional benefit for hardening fingernails, (B) that provide traditional psychological feedback, (C) that provide long term psychological feedback, and/or (D) that provide short term psychological feedback. Thus, the invention specifically contemplates compositions containing at least one substituent of each of the substituent classes: (A), (B), (C) and (D); (A), (B) and (C); (A), (B) and (D); (A), (C) and (D); (B), (C) and (D); (A) and (B); (A) and (C); (A) and (D); (B) and (C); (B) and (D); and (C) and (D).

The invention further contemplates compositions containing more than one substituent of each of the following substituent classes: (A), (B), (C) and (D); (A), (B) and (C); (A), (B) and (D); (A), (C) and (D); (B), (C) and (D); (A) and (B); (A) and (C); (A) and (D); (B) and (C); (B) and (D); (C) and (D); (A); (B); (C); and (D).

The invention thus specifically contemplates compositions containing: one or more of the above-recited preferred nutritionally beneficial substituents (A), one or more of the

above-recited preferred long term psychological feedback substituents (C), and one or more of the above-recited preferred short term psychological feedback substituents (D).

The invention additionally contemplates preferred compositions containing either one or more of the above-recited more preferred nutritionally beneficial substituents (A) or  
5 one or more of the above-recited highly preferred nutritionally beneficial substituents (A), and one or more of the above-recited preferred long term psychological feedback substituents (B), and one or more of the above-recited preferred short term psychological feedback substituents (C).

The invention additionally contemplates preferred compositions containing one or  
10 more of the above-recited preferred nutritionally beneficial substituents (A), and one or more of the above-recited preferred long term psychological feedback substituents (C), and either one or more of the above-recited more preferred short term psychological feedback substituents (D) or one or more of the above-recited highly preferred short term psychological feedback substituents (D).

The invention additionally contemplates preferred compositions containing one or  
15 more of the above-recited preferred nutritionally beneficial substituents (A), and either one or more of the above-recited more preferred long term psychological feedback substituents (C) or one or more of the above-recited highly preferred long term psychological feedback substituents (C), and one or more of the above-recited preferred  
20 short term psychological feedback substituents (D).

The invention further contemplates more preferred compositions containing one or more of the above-recited more preferred nutritionally beneficial substituents (A), and one or more of the above-recited preferred long term psychological feedback substituents (C), and one or more of the above-recited more preferred short term psychological feedback  
25 substituents (D).

The invention further contemplates more preferred compositions containing one or more of the above-recited preferred nutritionally beneficial substituents (A), and one or more of the above-recited more preferred long term psychological feedback substituents (C), and one or more of the above-recited more preferred short term psychological  
30 feedback substituents (D).

The invention further contemplates highly preferred compositions containing one or more of the above-recited highly preferred nutritionally beneficial substituents (A), and one or more of the above-recited preferred long term psychological feedback substituents (C), and one or more of the above-recited highly preferred short term psychological  
35 feedback substituents (D).

5 The invention further contemplates highly preferred compositions containing one or more of the above-recited highly preferred nutritionally beneficial substituents (A), and one or more of the above-recited highly preferred long term psychological feedback substituents (C), and one or more of the above-recited preferred short term psychological feedback substituents (D).

10 The invention further contemplates highly preferred compositions containing one or more of the above-recited preferred nutritionally beneficial substituents (A), and one or more of the above-recited highly preferred long term psychological feedback substituents (C), and one or more of the above-recited highly preferred short term psychological feedback substituents (D).

15 The invention further contemplates very highly preferred compositions containing one or more of the above-recited highly preferred nutritionally beneficial substituents (A), and one or more of the above-recited highly preferred long term psychological feedback substituents (C), and one or more of the above-recited highly preferred short term psychological feedback substituents (D).

In all such compositions, traditional psychological feedback substituents (B) may be present.

20 In accordance with the invention, the compositions of the present invention may additionally contain non-pharmacological agents such as stomach acid buffering compounds, antacids, fiber, laxatives, muscle relaxants, analgesics, acetaminophens, ibuprophens, topical antibiotics, anti-inflammatory agents, etc.) at non-prescription levels. In yet another embodiment, the compositions of the invention may be formulated to contain prescription pharmacological agents, such as hormones (e.g., insulin, thyroid hormone, etc.), anti-inflammatory agents, hypertensives, anti-arrhythmias, etc. The co-

25 administration of the compositions of the present invention and such prescription pharmacological agents has the salutary effect of confirming or the consumer's perception or recollection that a dosage has been consumed or administered, and as such aids in preventing overdosing and underdosing by individuals who are self administering such pharmacological agents.

30 As stated above, in a particularly preferred embodiment, the compositions of the present invention are provided via vehicles for oral or translingual delivery.

In a preferred embodiment, such vehicles are formulated to contain one or more additional substituents selected from the group consisting of: a xanthine alkaloid (such as a methylxanthine (caffeine, theophylline, theobromine, etc.) obtainable synthetically, or by

35 extraction of plants (e.g. coffee beans, cola nuts, tea plants, etc.); carbonic acid, milk,

vegetable juice, fruit juice, phosphoric acid, citric acid, hops, cocoa, chocolate, anandamide, quinine and malic acid.

5 The amounts of methylxanthines (and especially caffeine) present in the compositions of the invention are designed to result in the delivery of an amount of such methylxanthines sufficient to impart the desired effect. Thus, where the composition contain compounds that interact (or sequester) such methylxanthines, proportionately larger amounts of methylxanthine will be included in the composition. Likewise, where the composition contain substituents that enhance the desired effect of a methylxanthine, the amount of the methylxanthine in the composition will be proportionately reduced.

10 Serotonin, and its precursors, and substituents that stimulate serotonin production and/or release are also preferred substituents of the compositions of the present invention.

15 The orally or translingually delivered compositions of the present invention may comprise clear solutions, or may be suspensions of particulate material (such as plant pulp or other tissue). When provided as a beverage, such beverages are typically free-flowing and have a viscosity similar to that of water. Preferably, thickening agents are added to impart greater viscosity to the beverages. The beverages of the present invention are typically dispensed and stored in containers (e.g., cardboard containers, glass or plastic bottles, metal cans, etc.).

## 20 **Uses Of The Compositions Of The Invention**

The compositions of the present invention provide a nutritionally beneficial substituent to an individual in a manner accompanied by a reinforcing psychological feedback sensation. The psychological feedback sensation imparts an immediate physiological recognition of the composition (such as a feeling of warmth, or a flush feeling) as well as a long term psychological feedback (such as a counter-depressive effect or a sense of well-being). These feedbacks become psychologically associated with the nutritional benefit of the composition and increase an individual's desire to take or use the composition on a regular basis, and thus serve to ensure that the individual obtains a nutritionally beneficial amount of the composition.

30 By the selected inclusion of desired substituents, the compositions of the present invention can be tailored to provide any of a number of desired therapeutic effects. Such effects include blood detoxification; liver repair and detoxification; lessening of a desire to drink alcohol; reversal of alcohol-induced damage; antioxidant activity; alleviating depression, alleviating stress, restoring or improving brain function (such as memory and learning capabilities); suppressing appetite; stabilizing blood sugar levels; improving immune system function and response; etc.

Alternatively, or more preferably, in addition, such compositions can be formulated to contain effective amounts of nutritionally active substituents (such as vitamins, minerals, co-factors, etc.) which build or restore supplies of such substituents damaged by conditions commonly related to each therapy so as to improve the general health of the recipient.

5 In a preferred embodiment, the compositions of the present invention are formulated to provide a treatment for the conditions associated with alcoholism. Such compositions, especially beverages are formulated to provide effective amounts of: (1) a liver function repairant (such as alfalfa, choline, dandelion, gotu kola, inositol, L-cysteine, L-methionine, lecithin, milk thistle, niacin, selenium, vitamin B1, vitamin D, yellow dock, 10 zinc and or zinc picolinate); (2) a substituent for reversing alcohol-related damage (alfalfa, magnesium, vitamin B1, vitamin D); (3) a substituent for alleviating stress or depression (such as calcium, choline, folic acid, GABA, ginkgo biloba, ginseng, gotu kola, inositol, DL-phenylalanine, 5-hydroxy-tryptophan, lecithin, magnesium, PABA, vitamin B3, vitamin B5, 15 vitamin B12, vitamin C); and (4) a substituent for reducing the recipient's desire for alcohol (such as daldzin, folic acid, glutathione, L-glutamine, L-methionine, St. Johnswort).

While various embodiments of the present invention have been described above, it should be understood that they have been presented by way of example only, and not limitation. Thus, the breadth and scope of the present invention should not be limited by 20 any of the above-described exemplary embodiments, but should be defined only in accordance with the following claims and their equivalents.

**WHAT IS CLAIMED IS:**

1. A composition for human consumption, comprising:  
at least one nutritionally beneficial substituent (A) selected from the group consisting of:  
gelatin; horsetail; silica; and bioavailable zinc;  
said substituent present in an amount sufficient to enhance or facilitate hardening of  
fingernails; and  
at least one additional substituent (B) that provides traditional psychological feedback  
selected from the group consisting of:  
caffeine or a caffeine equivalent; tryptophan; ephedra; cola; green  
tea extract; carbonic acid; phosphoric acid; citric acid; hops; cocoa;  
chocolate; an anandamide; quinine; malic acid; a sweetener; a fruit  
juice or fruit juice extract; milk; a vegetable juice or vegetable juice  
extract; and 5-hydroxy-tryptophan;  
present in an amount sufficient to provide a sensory psychological feedback.
2. The composition of claim 1, wherein said composition is a beverage.
3. The composition of claim 2, wherein said beverage is substantially alcohol-free.
4. The compositions of any of claims 1-3 which additionally contains at least one additional  
substituent (C) that provides long term psychological feedback substituent or at least  
one additional substituent (D) that provides short term psychological feedback; wherein  
said substituent (C) that provides said long term psychological feedback is  
selected from the group consisting of:  
an anandamide; 5-hydroxytryptophan; 5-fluoro-A-  
methyltryptamine; 5-fluorotryptophan; 6-fluorotryptophan;  
tryptophan; allocryptine; caffeine; theophylline; theobromine;  
California poppy; calcium; chromium picolinate; chromium  
polynicotinate; chicalote extract; cocoa; chocolate; Damiana  
(*Turnera diffusa*); DL-phenylalanine; ephedra; ephedrine;  
epinephrine; GABA; ginger; ginseng; L-glutamine; green tea;  
guarana; kava kava; lactuca virosa; L-tyrosine; lobelia;  
magnesium; maraba; protopine; pseudophedrine;  
pseudoepinephrine; pyridoxal-5-phosphate; red rice yeast;  
serotonin; sucrose; fructose; glucose; high fructose corn  
syrup; and St. Johnswort; and

is present in an amount sufficient to provide a long term feeling of well-being or calmness; and  
said substituent (D) that provides said short term psychological feedback is selected from the group consisting of:

an anandamide; an alcohol enhancer; angelica root; balm;  
bitter orange (*Auranti pericarpium*); bogbean; boldo;  
calamus; California poppy; capsaicum; caraway; cayenne;  
chamomile; cinchona bark; quinine; chocolate; cinnamon;  
clove; cocoa; condurango; dandelion; elecampane; GABA;  
gentian; ginger; ginseng; holy thistle; hops; horehound;  
dried lemon peel (*Citri pericardium*); mugwort; unripe  
orange; peppermint; quassia; red sage; rosemary; star  
anise; thyme; tumeric; wormwood; yarrow; and zinc; and

is present in an amount sufficient to provide a short term sensation of warmth, tingling, excitement, tranquility and well-being, or a distinctive, intense, bitter or unusual taste.

5. The composition of claim 4, wherein said composition contains at least one of said substituent (C) that provides said long term psychological feedback.
6. The composition of claim 4, wherein said composition contains at least one of said substituent (D) that provides said short term psychological feedback.
7. The composition of claim 4, wherein said composition contains both at least one of said substituent (C) that provides said long term psychological feedback, and at least one of said substituent (D) that provides said short term psychological feedback.
8. The composition of any of claims 1-3, wherein said composition contains at least two of said nutritionally beneficial substituents (A).
9. The composition of claim 4, wherein said composition contains at least two of said nutritionally beneficial substituents (A).
10. The composition of claim 9, wherein said composition contains at least four of said nutritionally beneficial substituents (A).
11. The composition of claim 5, wherein said composition contains at least two of said nutritionally beneficial substituents (A).

12. The composition of claim 11, wherein said composition contains at least four of said nutritionally beneficial substituents (A).
13. The composition of claim 6, wherein said composition contains at least two of said nutritionally beneficial substituents (A)
14. The composition of claim 13, wherein said composition contains at least four of said nutritionally beneficial substituents (A).
15. The composition of claim 7, wherein said composition contains at least two of said nutritionally beneficial substituents (A).
16. The composition of claim 15, wherein said composition contains at least four of said nutritionally beneficial substituents (A).
17. The beverage composition of claim 2, wherein said nutritionally beneficial substituent is gelatin.
18. The beverage composition of claim 2, wherein said nutritionally beneficial substituent is horsetail.
19. The beverage composition of claim 2, wherein said nutritionally beneficial substituent is silica.
20. The beverage composition of claim 2, wherein said nutritionally beneficial substituent is bioavailable zinc.
21. The beverage composition of claim 2, wherein said nutritionally beneficial substituents are selected from the group consisting of gelatin, horsetail, and silica.
22. The composition of claim 4, wherein said substituent (C) is selected from the group consisting of 5-hydroxy-tryptophan, 5-fluoro-A-methyltryptamine, 5-fluoro-tryptophan, L-glutamic acid, L-phenylalanine, and L-tryptophan.
23. The composition of claim 4, wherein said substituent (C) is selected from the group consisting of enkephaline, ephedrine, and serotonin.
24. The composition of claim 4, wherein said substituent (C) is selected from the group consisting of red rice yeast, damiana, ephedra, ginger, ginseng, goto kola, lobelia, ma huang, maraba and psilocybin.



25. The composition of claim 4, wherein said composition contains more than one of said long term psychological feedback substituents (C).
26. The composition of claim 5, wherein said composition contains more than one of said long term psychological feedback substituents (C).
27. The composition of claim 6, wherein said composition contains more than one of said long term psychological feedback substituents (C).
28. The composition of claim 7, wherein said composition contains more than one of said long term psychological feedback substituents (C).
29. The composition of claim 4, wherein said composition contains a substituent (D) selected from the group consisting of capsaicum and cayenne.
30. The composition of claim 4, wherein said composition contains a substituent (D) selected from the group consisting of ginger and ginseng.
31. The composition of claim 4, wherein said composition contains more than one of said short term psychological feedback substituents (D).
32. The composition of claim 5, wherein said composition contains more than one of said long term psychological feedback substituents (D).
33. The composition of claim 6, wherein said composition contains more than one of said long term psychological feedback substituents (D).
34. The composition of claim 7, wherein said composition contains more than one of said long term psychological feedback substituents (D).
35. The composition of claim 4, wherein said composition is a beverage, and wherein said substituent (B) of said beverage is caffeine.
36. The composition of claim 4, wherein said composition is a beverage, and wherein said substituent (B) of said beverage is cola.
37. The composition of claim 4, wherein said composition is a beverage, and wherein said substituent (B) of said beverage is carbonic acid.
38. The composition of claim 4, wherein said composition is a beverage, and wherein said substituent (B) of said beverage is phosphoric acid.

39. The composition of claim 4, wherein said composition is a beverage, and wherein said substituent (B) of said beverage is citric acid.
40. The composition of claim 4, wherein said composition is a beverage, and wherein said substituent (B) of said beverage is hops.
41. The composition of claim 4, wherein said composition is a beverage, and wherein said substituent (B) of said beverage is selected from the group consisting of cocoa, chocolate and an anandamide.
42. The composition of claim 4, wherein said composition is a beverage, and wherein said substituent (B) of said beverage is malic acid.
43. The composition of claim 4, wherein said composition is a beverage, and wherein said substituent (B) of said beverage is quinine.
44. The composition of claim 4, wherein said composition is a beverage, and wherein said substituent (B) of said beverage is a sweetener.
45. The beverage composition of claim 44, wherein said sweetener is selected from the group consisting of fructose, high fructose corn syrup, sucrose, maltose, glucose, lactose, sorbitol, and galactose.
46. The beverage composition of claim 44, wherein said sweetener is selected from the group consisting of aspartame, saccharin, an L-sugar, and a cyclamate.
47. The composition of claim 4, wherein said composition is a beverage, and wherein said substituent (B) of said beverage is a fruit juice or fruit juice extract.
48. The beverage composition of claim 47, wherein said fruit juice or fruit juice extract comprises a juice or extract from a fruit selected from the group consisting of apple, pineapple, grape, pear, banana, plum, cherry, peach, strawberry, blueberry, cranberry, blackberry, orange, grapefruit, lemon, and lime.
49. The composition of claim 4, wherein said composition is a beverage, and wherein said substituent (B) of said beverage is milk.
50. The composition of claim 4, wherein said composition is a beverage, and wherein said substituent (B) of said beverage is a vegetable juice or vegetable juice extract.
51. A composition for human consumption, comprising:

at least one nutritionally beneficial substituent (A) selected from the group consisting of:

gelatin; horsetail; silica; and bioavailable zinc;

said substituent being present in an amount sufficient to enhance or facilitate hardening of fingernails; and

at least one additional substituent, wherein said additional substituent is selected from the group consisting of a substituent (C) that provides long term psychological feedback substituent and a substituent (D) that provides short term psychological feedback;

wherein said substituent (C) that provides said long term psychological feedback is selected from the group consisting of:

an anandamide; 5-hydroxytryptophan; 5-fluoro-A-methyltryptamine; 5-fluorotryptophan; 6-fluorotryptophan; tryptophan; allocryptine; caffeine; theophylline; theobromine; California poppy; calcium; chromium picolinate; chromium polynicotinate; chicalote extract; cocoa; chocolate; Damiana (*Turnera diffusa*); DL-phenylalanine; ephedra; ephedrine; epinephrine; GABA; ginger; ginseng; L-glutamine; green tea; guarana; kava kava; lactuca virosa; L-tyrosine; lobelia; magnesium; maraba; protopine; pseudophedrine; pseudoepinephrine; pyridoxal-5-phosphate; red rice yeast; serotonin; sucrose; fructose; glucose; high fructose corn syrup; and St. Johnswort; and

is present in an amount sufficient to provide a long term feeling of well-being or calmness; and

said substituent (D) that provides said short term psychological feedback is selected from the group consisting of:

an anandamide; an alcohol enhancer; angelica root; balm; bitter orange (*Auranti pericarpium*); bogbean; boldo; calamus; California poppy; capsaicum; caraway; cayenne; chamomile; cinchona bark; quinine; chocolate; cinnamon; clove; cocoa; condurango; dandelion; elecampane; GABA; gentian; ginger; ginseng; holy thistle; hops; horehound; dried lemon peel (*Citri pericardium*); mugwort; unripe orange; peppermint; quassia; red sage; rosemary; star anise; thyme; tumeric; wormwood; yarrow; and zinc; and

is present in an amount sufficient to provide a short term sensation of warmth, tingling, excitement, tranquility and well-being, or a distinctive, intense, bitter or unusual taste.

52. The composition of claim 51, wherein said composition contains at least one of said substituent (C) that provides said long term psychological feedback.
53. The composition of claim 51, wherein said composition contains at least one of said substituent (D) that provides said short term psychological feedback.
54. The composition of claim 51, wherein said composition contains at least one of said substituent (C) that provides said long term psychological feedback, and at least one of said substituent (D) that provides said short term psychological feedback.
55. A method for hardening fingernails of a human, which comprises administering or providing to said human a composition comprising:  
at least one nutritionally beneficial substituent (A) selected from the group consisting of:  
gelatin; horsetail; silica; and bioavailable zinc;  
said substituent being present in an amount sufficient to enhance or facilitate hardening of fingernails of said human recipient; and  
at least one additional substituent, wherein said additional substituent is selected from the group consisting of a substituent (C) that provides long term psychological feedback substituent and a substituent (D) that provides short term psychological feedback;  
wherein said substituent (C) that provides said long term psychological feedback is selected from the group consisting of:  
an anandamide; 5-hydroxytryptophan; 5-fluoro-A-methyltryptamine; 5-fluorotryptophan; 6-fluorotryptophan; tryptophan; allocryptine; caffeine; theophylline; theobromine; California poppy; calcium; chromium picolinate; chromium polynicotinate; chicalote extract; cocoa; chocolate; Damiana (*Turnera diffusa*); DL-phenylalanine; ephedra; ephedrine; epinephrine; GABA; ginger; ginseng; L-glutamine; green tea; guarana; kava kava; lactuca virosa; L-tyrosine; lobelia; magnesium; maraba; protopine; pseudophedrine; pseudoepinephrine; pyridoxal-5-phosphate; red rice yeast; serotonin; sucrose; fructose; glucose; high fructose corn syrup; and St. Johnswort; and  
is present in an amount sufficient to provide a long term feeling of well-being or calmness; and  
said substituent (D) that provides said short term psychological feedback is selected from the group consisting of:

an anandamide; an alcohol enhancer; angelica root; balm; bitter orange (*Auranti pericarpium*); bogbean; boldo; calamus; California poppy; capsaicum; caraway; cayenne; chamomile; cinchona bark; quinine; chocolate; cinnamon; clove; cocoa; condurango; dandelion; elecampane; GABA; gentian; ginger; ginseng; holy thistle; hops; horehound; dried lemon peel (*Citri pericardium*); mugwort; unripe orange; peppermint; quassia; red sage; rosemary; star anise; thyme; tumeric; wormwood; yarrow; and zinc; and

is present in an amount sufficient to provide a short term sensation of warmth, tingling, excitement, tranquility and well-being, or a distinctive, intense, bitter or unusual taste.

56. The method of claim 55, wherein said composition contains at least one of said substituent (C) that provides said long term psychological feedback.
57. The method of claim 55, wherein said composition contains at least one of said substituent (D) that provides said short term psychological feedback.
58. The method of claim 55, wherein said composition contains at least one of said substituent (C) that provides said long term psychological feedback, and at least one of said substituent (D) that provides said short term psychological feedback.
59. A composition for human consumption, comprising:  
at least two nutritionally beneficial substituents (A), wherein said substituents (A) are selected from the group consisting of:  
gelatin; horsetail; silica; and bioavailable zinc;  
wherein said substituents are present in an amount sufficient to enhance or facilitate hardening of fingernails.
60. The composition of claim 59, wherein said composition comprises at least three of said substituents (A).
61. The composition of claim 59, wherein said composition comprises all of said substituents (A).
62. A composition for human consumption, comprising:  
at least two substituents (B) that provide traditional psychological feedback, wherein said substituents (B) are selected from the group consisting of:

caffeine or a caffeine equivalent; tryptophan; ephedra; cola; green tea extract; carbonic acid; phosphoric acid; citric acid; hops; cocoa; chocolate; an anandamide; quinine; malic acid; a sweetener; a fruit juice or fruit juice extract; milk; a vegetable juice or vegetable juice extract; and 5-hydroxy-tryptophan;

wherein said substituents are present in an amount sufficient to provide a sensory psychological feedback.

63. The composition of claim 62, wherein said composition comprises at least three of said substituents (B).
64. The composition of claim 63, wherein said composition comprises at least four of said substituents (B).
65. The composition of claim 64, wherein said composition comprises at least five of said substituents (B).
66. A composition for human consumption, comprising:  
at least two substituents (C) that provide long term psychological feedback, wherein said substituents (C) are selected from the group consisting of:  
an anandamide; 5-hydroxytryptophan; 5-fluoro-A-methyltryptamine; 5-fluorotryptophan; 6-fluorotryptophan; tryptophan; allocryptine; caffeine; theophylline; theobromine; California poppy; calcium; chromium picolinate; chromium polynicotinate; chicalote extract; cocoa; chocolate; Damiana (*Turnera diffusa*); DL-phenylalanine; ephedra; ephedrine; epinephrine; GABA; ginger; ginseng; L-glutamine; green tea; guarana; kava kava; lactuca virosa; L-tyrosine; lobelia; magnesium; maraba; protopine; pseudophedrine; pseudoepinephrine; pyridoxal-5-phosphate; red rice yeast; serotonin; sucrose; fructose; glucose; high fructose corn syrup; and St. Johnswort;  
wherein said substituents are present in an amount sufficient to provide a long term feeling of well-being or calmness.
67. The composition of claim 66, wherein said composition comprises at least three of said substituents (C).
68. The composition of claim 67, wherein said composition comprises at least four of said substituents (C).

69. The composition of claim 68, wherein said composition comprises at least five of said substituents (C).
70. A composition for human consumption, comprising:  
at least two substituents (D) that provide short term psychological feedback, wherein said substituents (D) are selected from the group consisting of:  
an anandamide; an alcohol enhancer; angelica root; balm; bitter orange (*Auranti pericarpium*); bogbean; boldo; calamus; California poppy; capsicum; caraway; cayenne; chamomile; cinchona bark; quinine; chocolate; cinnamon; clove; cocoa; condurango; dandelion; elecampane; GABA; gentian; ginger; ginseng; holy thistle; hops; horehound; dried lemon peel (*Citri pericardium*); mugwort; unripe orange; peppermint; quassia; red sage; rosemary; star anise; thyme; tumeric; wormwood; yarrow; and zinc; and  
wherein said substituent is present in an amount sufficient to provide a short term sensation of warmth, tingling, excitement, tranquility and well-being, or a distinctive, intense, bitter or unusual taste.
71. The composition of claim 70, wherein said composition comprises at least three of said substituents (D).
72. The composition of claim 71, wherein said composition comprises at least four of said substituents (D).
73. The composition of claim 72, wherein said composition comprises at least five of said substituents (D).